



LiftEx 2017

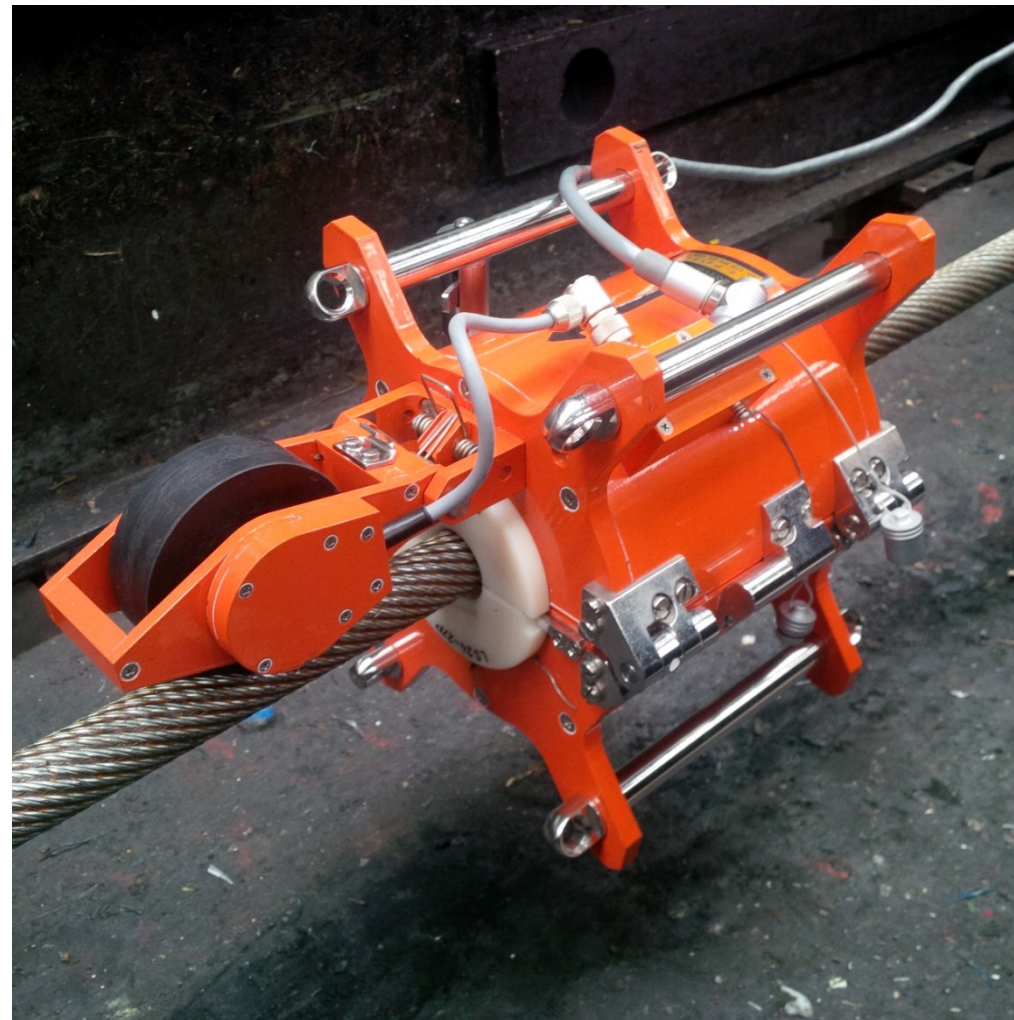
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Crane Rope Inspection and Discard - Magnetic Rope Testing

Barrie Mordue - Tensology Ltd

Why MRT?

- Signature trace
- Internal inspection
- External inspection (lubrication, dirt)
- Full length of rope
- Quantitative results (LMA)
- Permanent record/off-line analysis
- Legislation

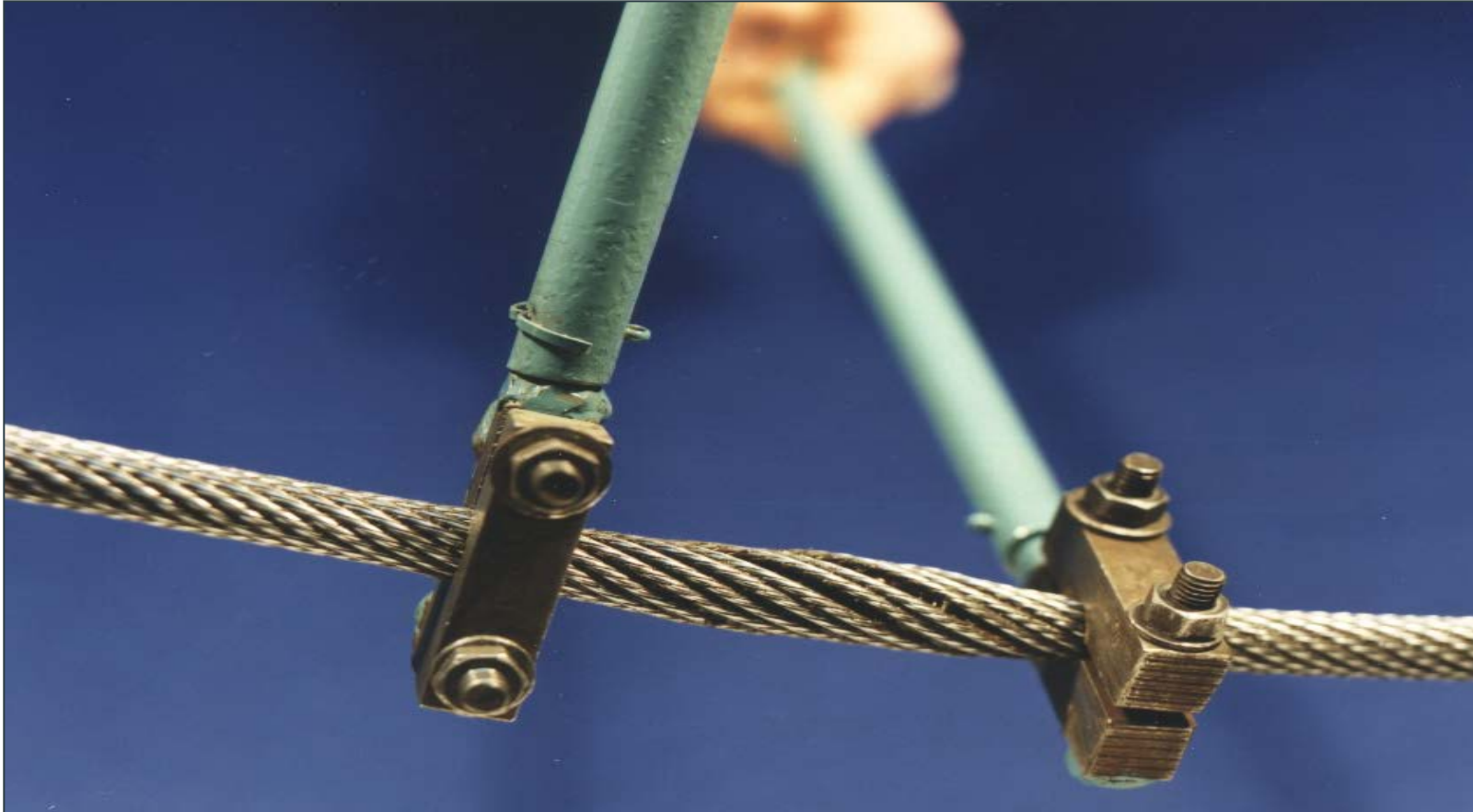




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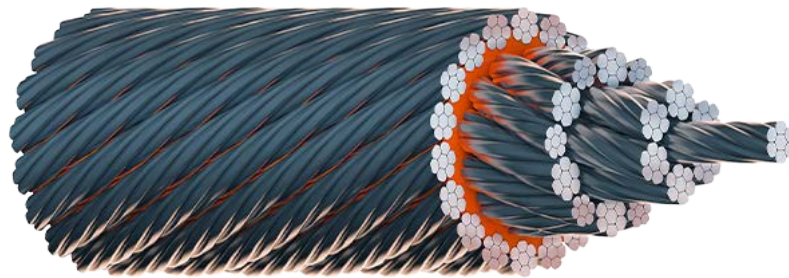
Traditional
internal
examination

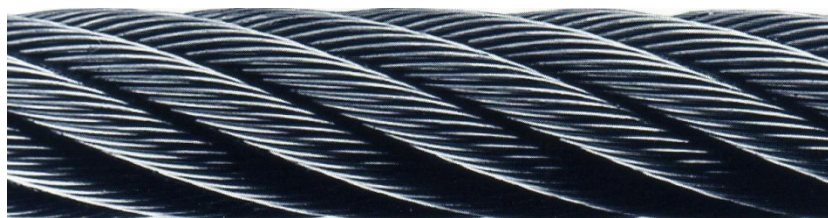


Plastic impregnated or PFV ropes



Traditional
internal
examination





New/lightly
lubricated ropes



Used/Heavily lubricated ropes



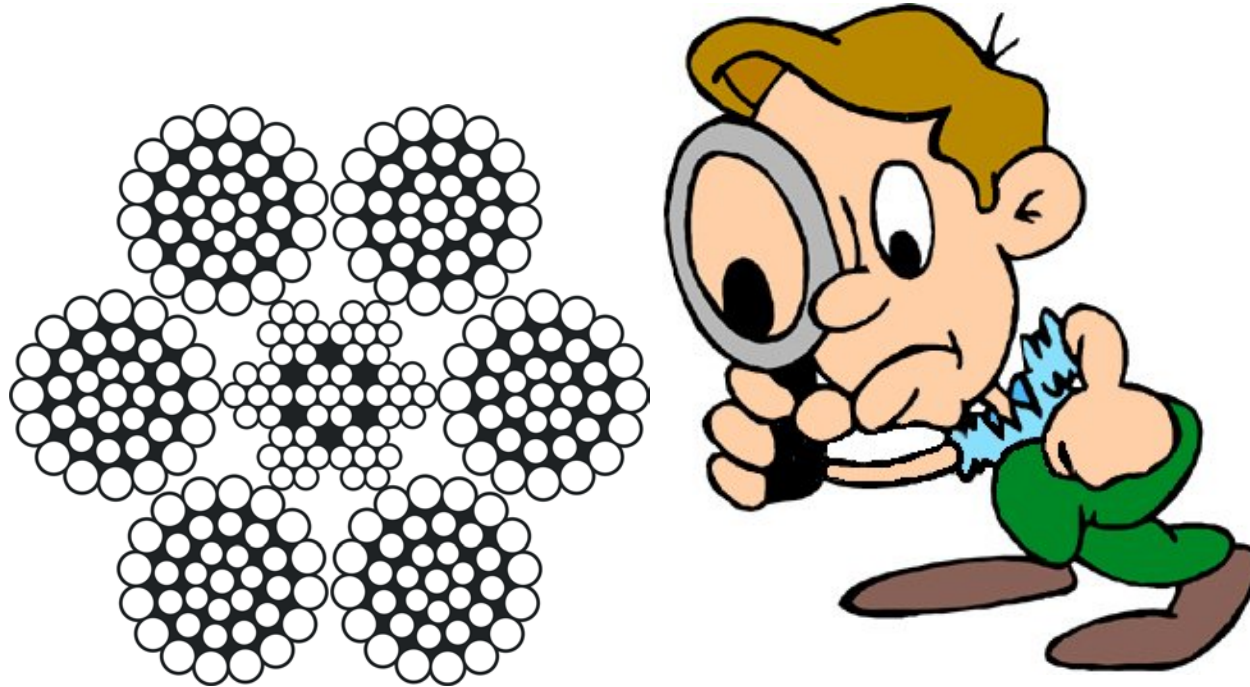
Traditional
external
examination



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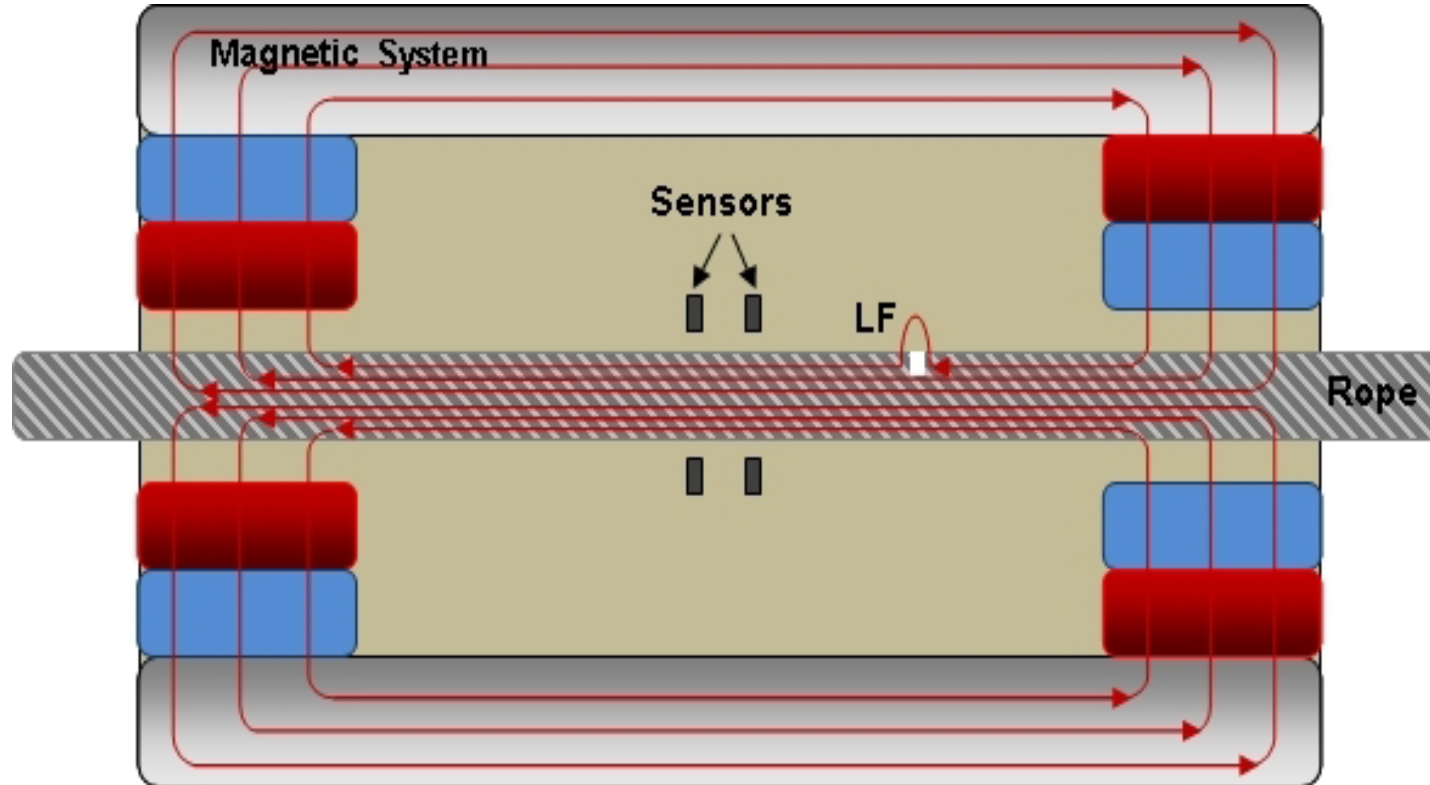
Traditional
external
examination



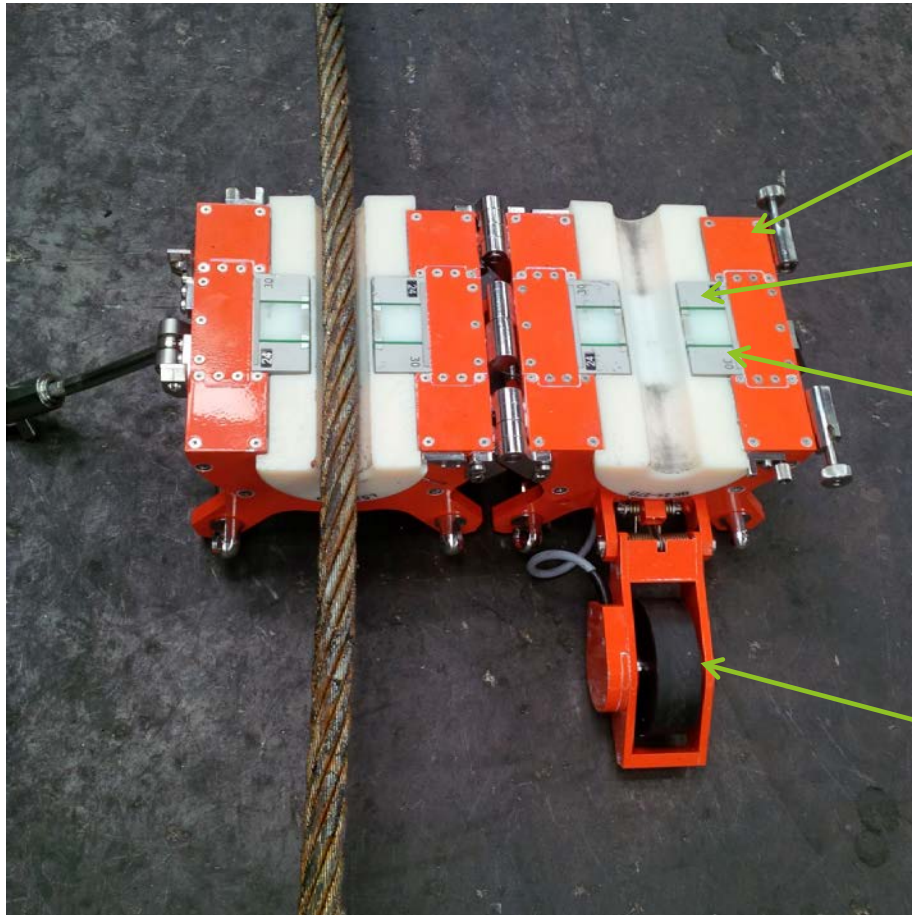
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Magnetic Rope
Testing



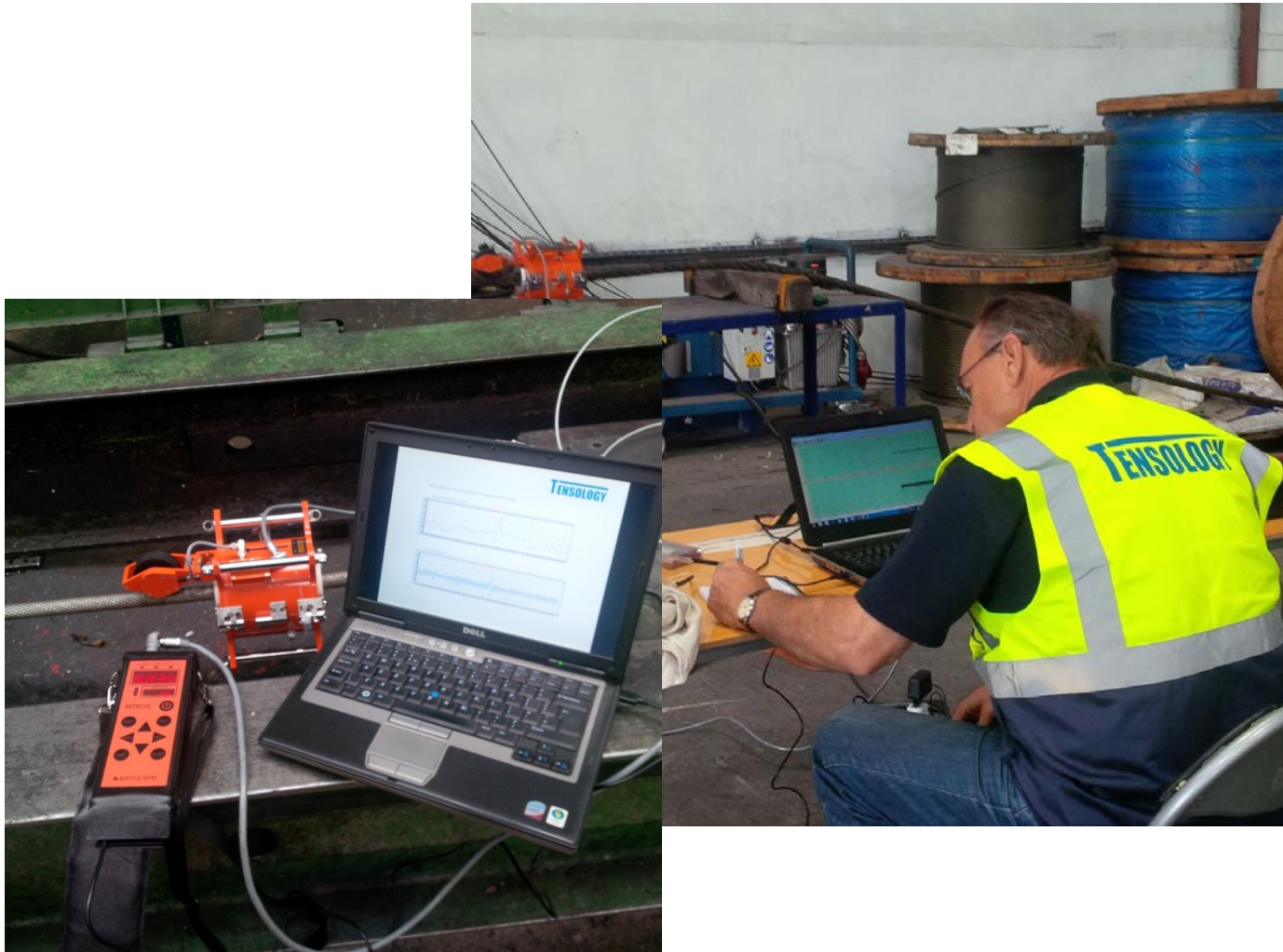
Powerful permanent magnet

High accuracy sensors

Dual function, simultaneously detect LF and LMA

Length measurement

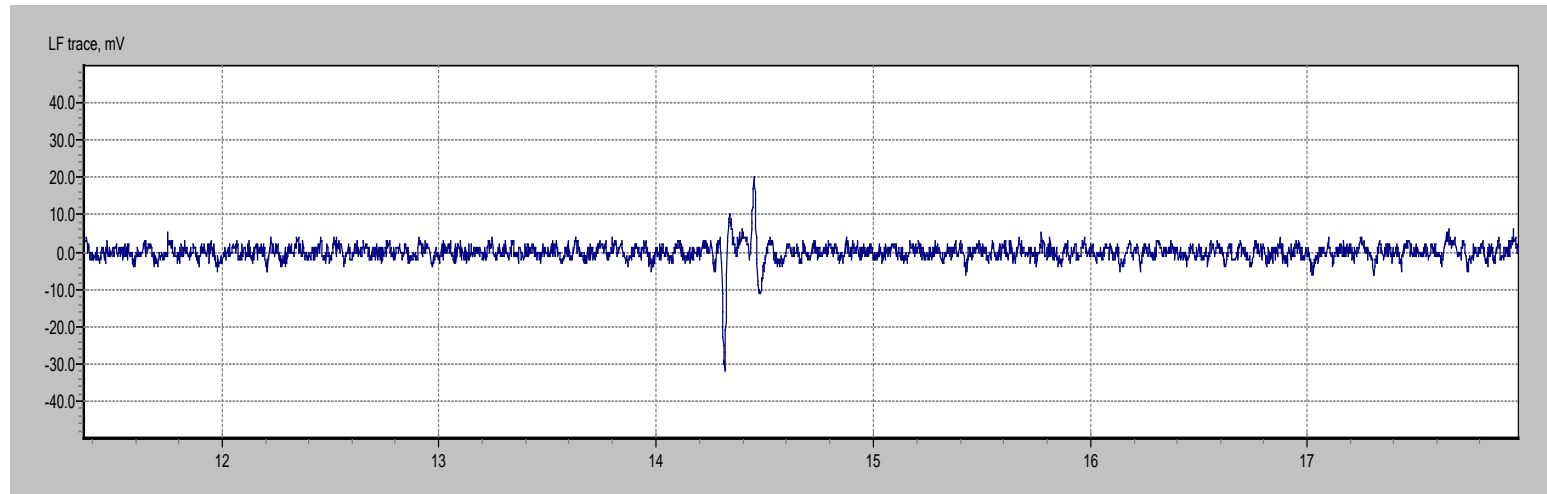
Magnetic Rope Testing



Analysis and
interpretation of
results

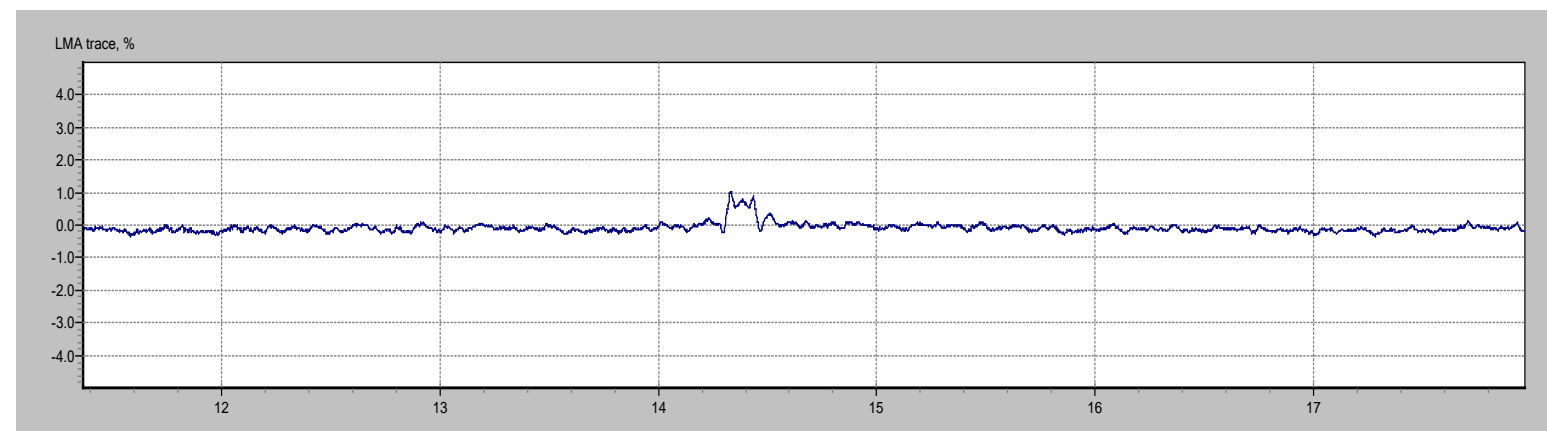
Real time viewing

Localised Faults (LF)



Output traces

Loss in Metallic Area (LMA)

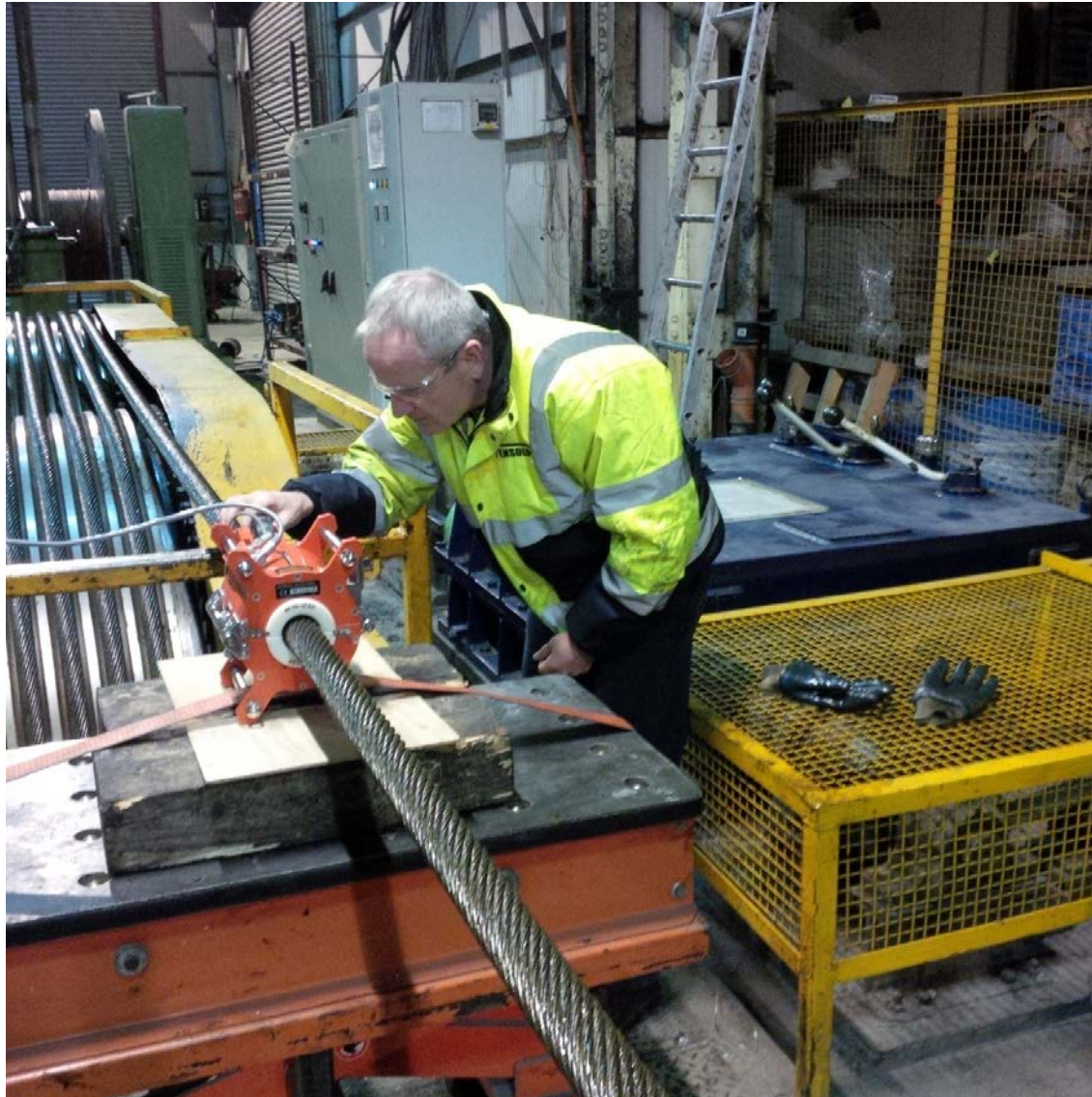




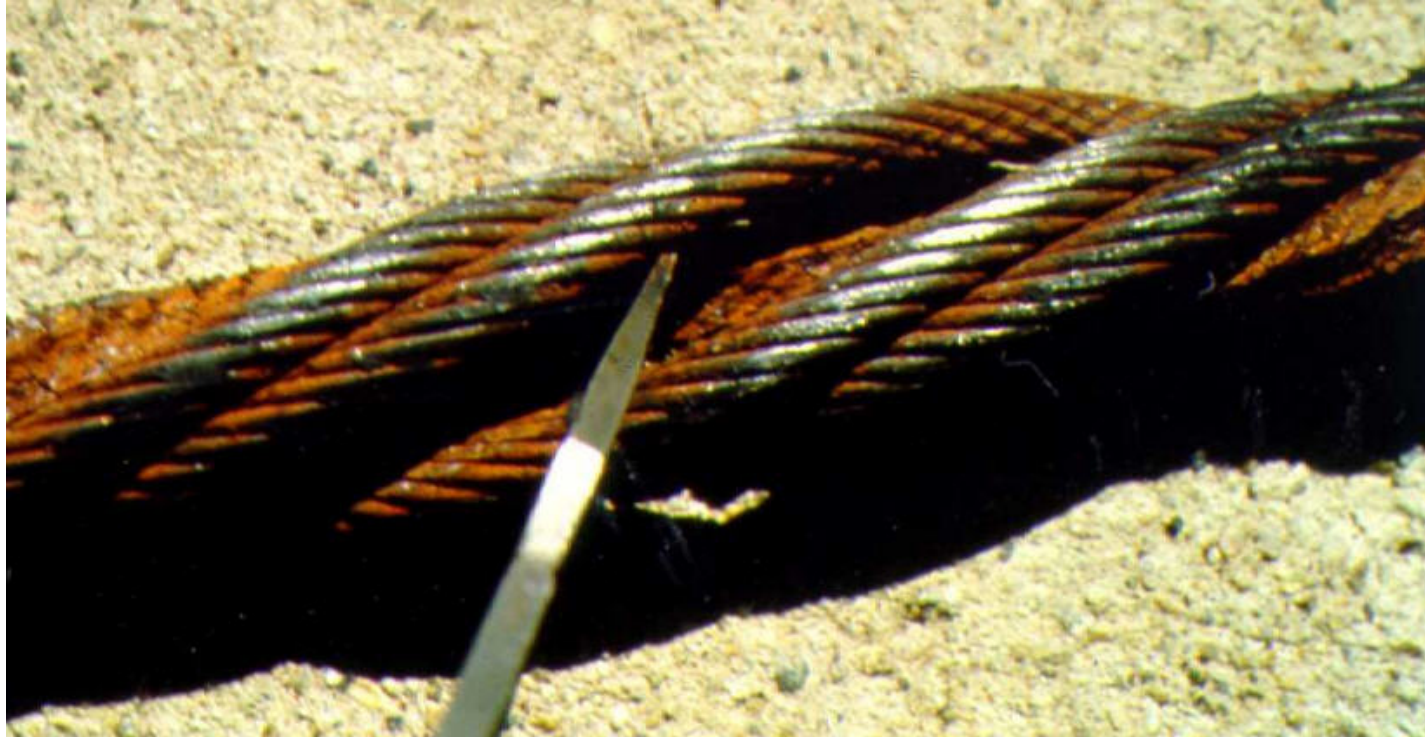
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Signature trace



MRT

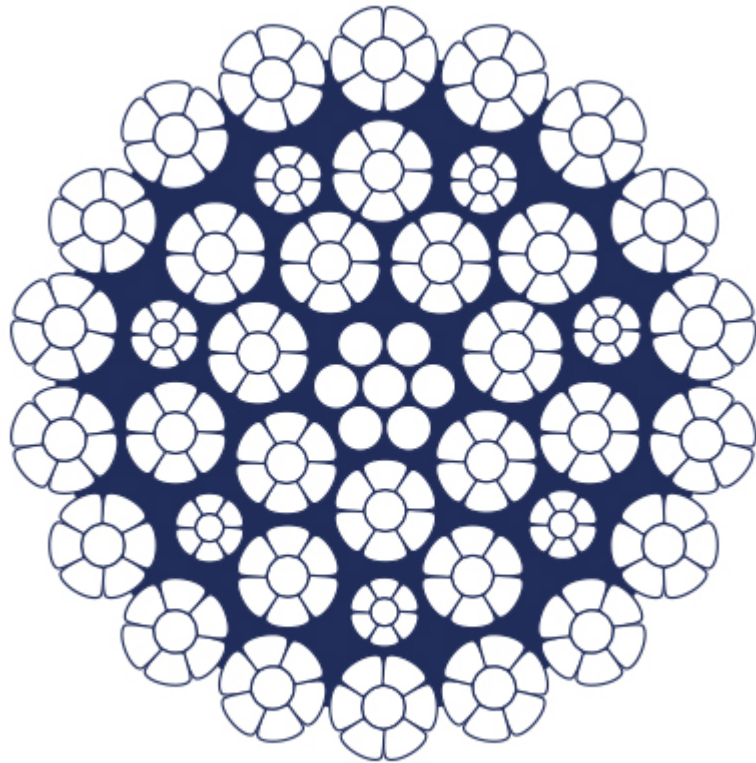
Internal
degradation



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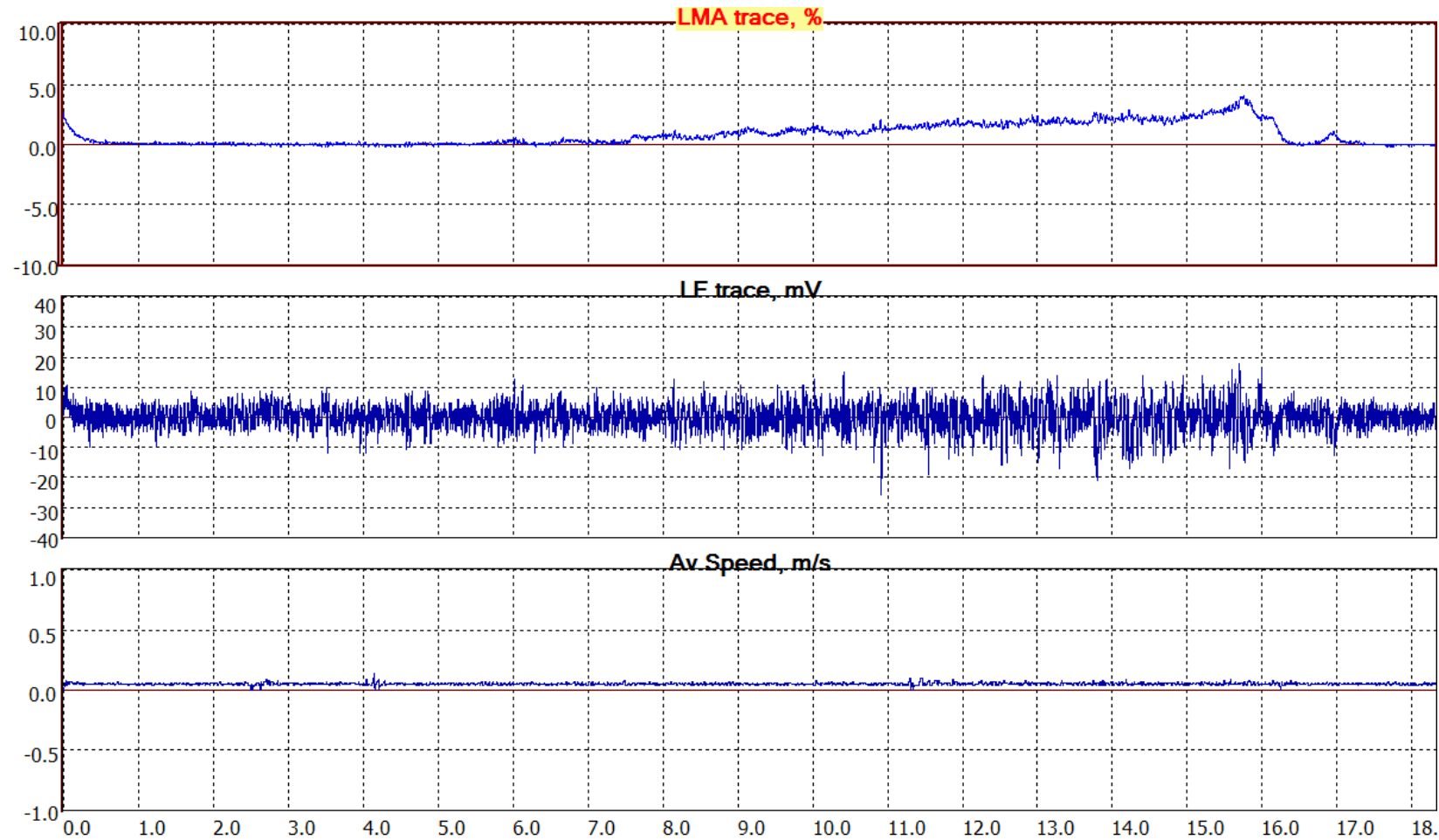
MRT

Internal
degradation

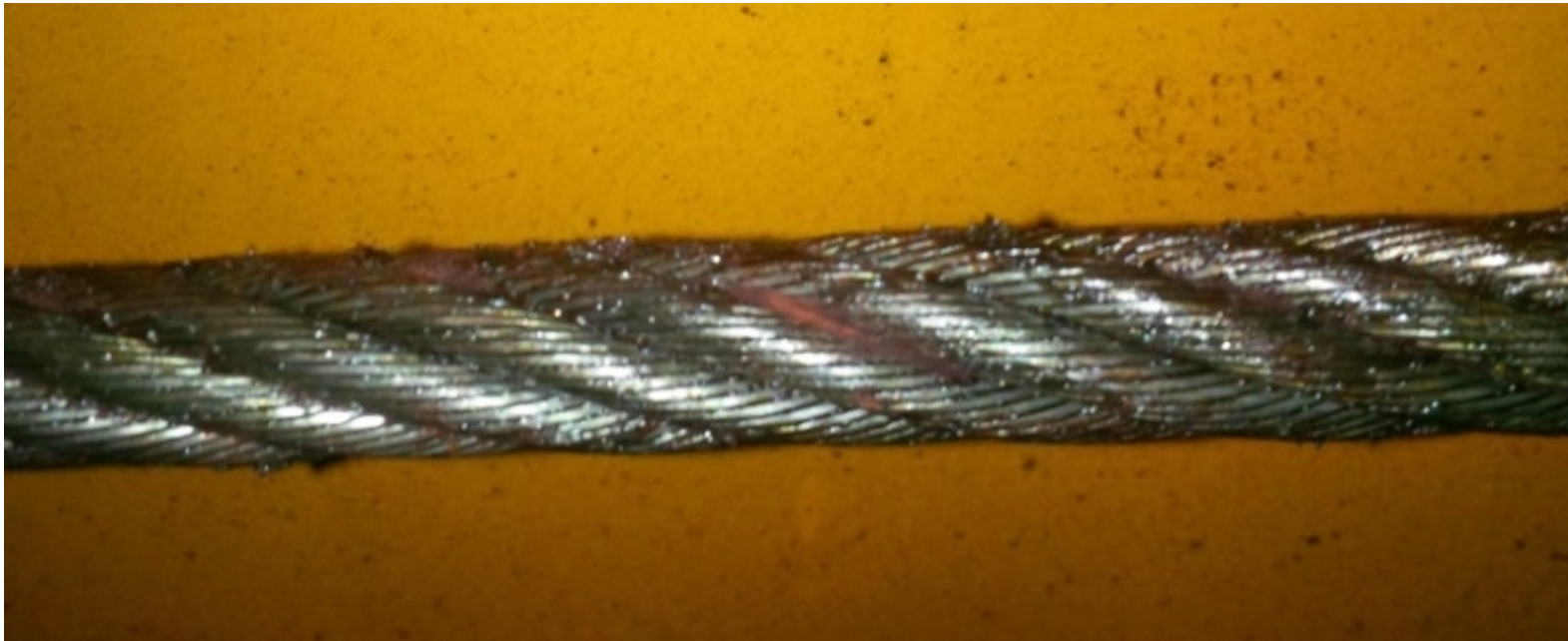


MRT

Fretting corrosion



MRT
Fretting corrosion

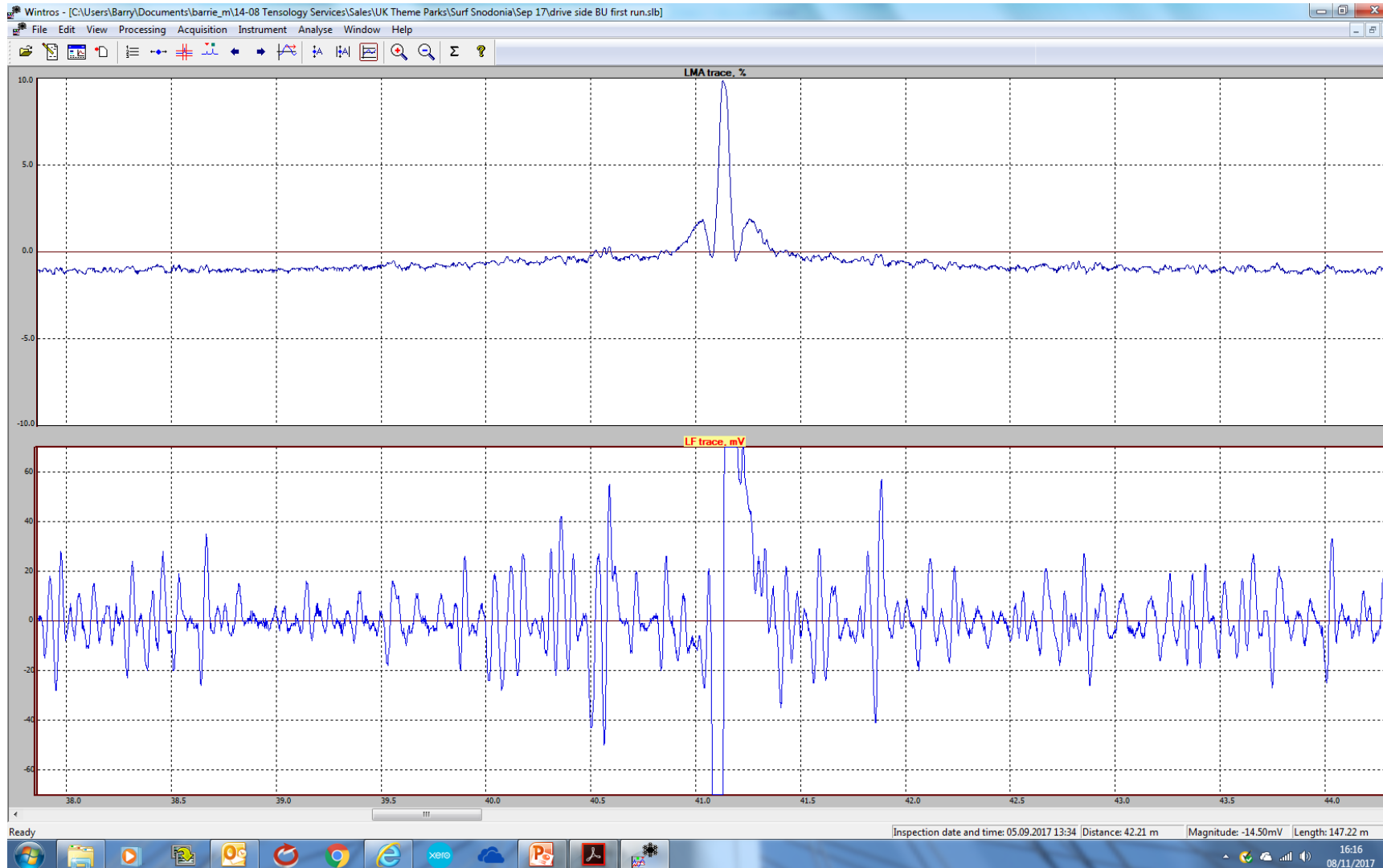


MRT
Fretting corrosion



MRT

Core degradation



MRT
Core degradation



MRT

Core degradation



MRT

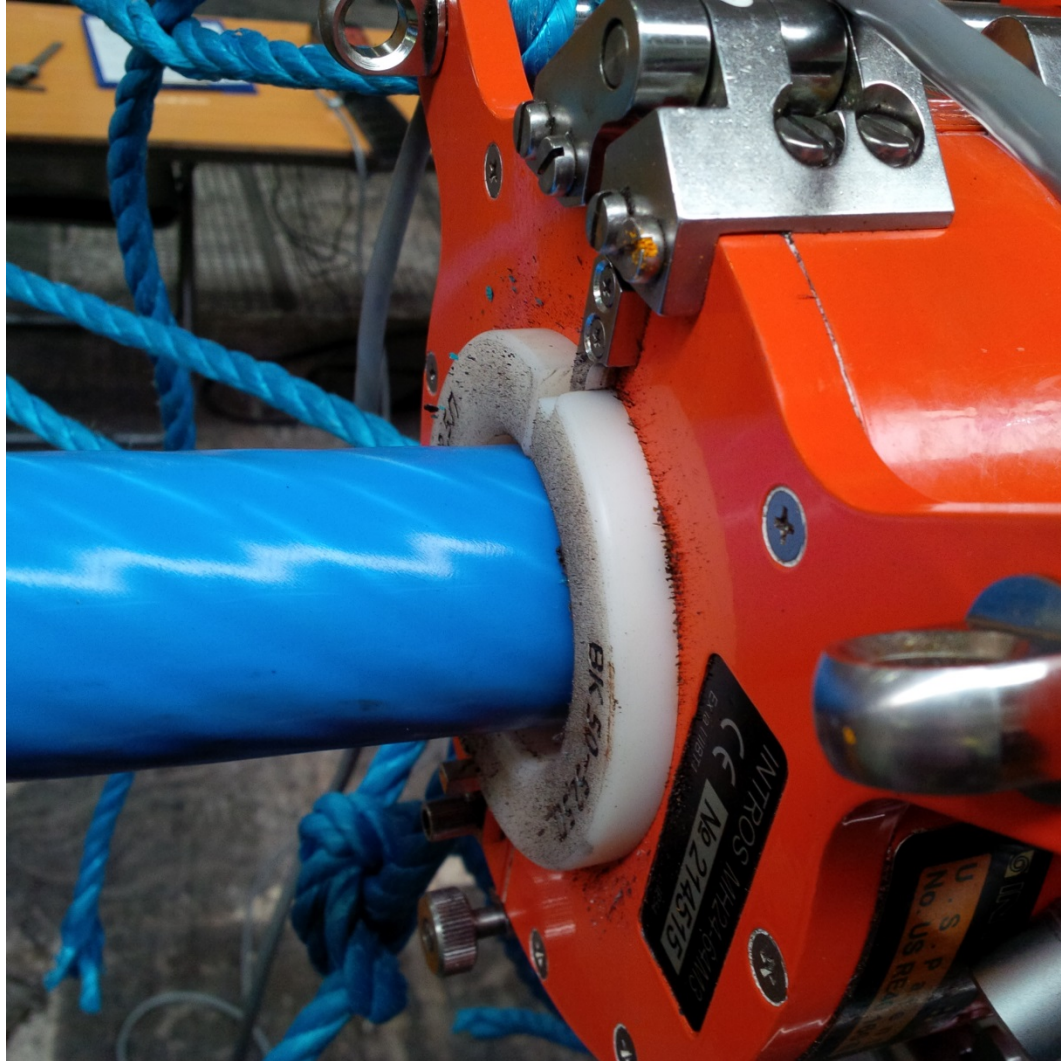
Core degradation



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MRT

Internal and
external
inspection



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MRT


Internal and
external
inspection




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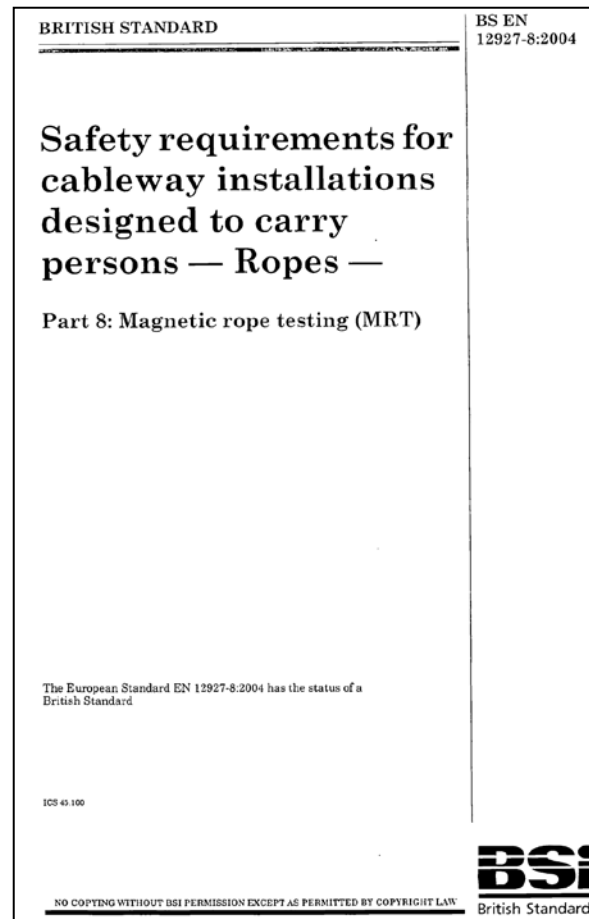
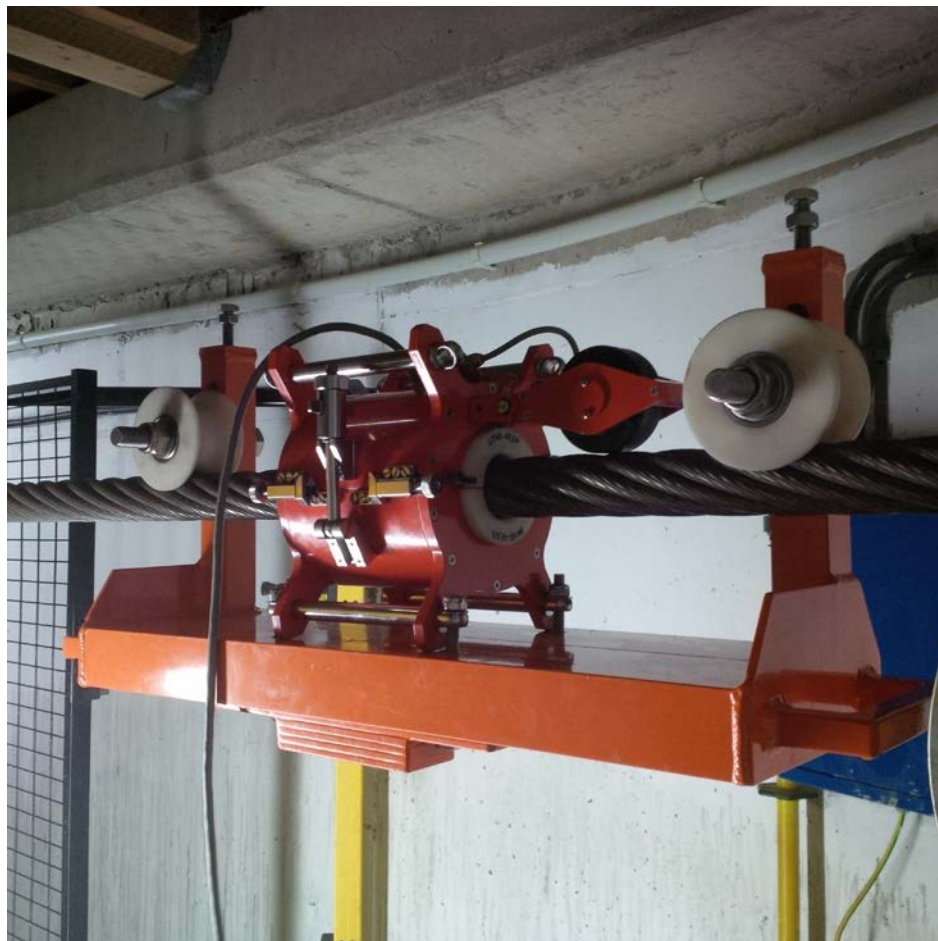
Guidance on
**Wire Rope Integrity
Management for Vessels
in the Offshore Industry**



International Marine
Contractors Association
www.imca-int.com

IMCA SEL 022, IMCA M 194
October 2008

Offshore lifting
ropes



Cableway ropes
MRT

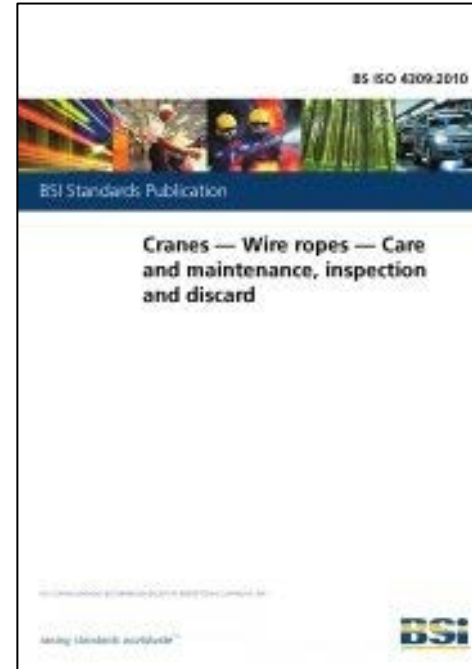
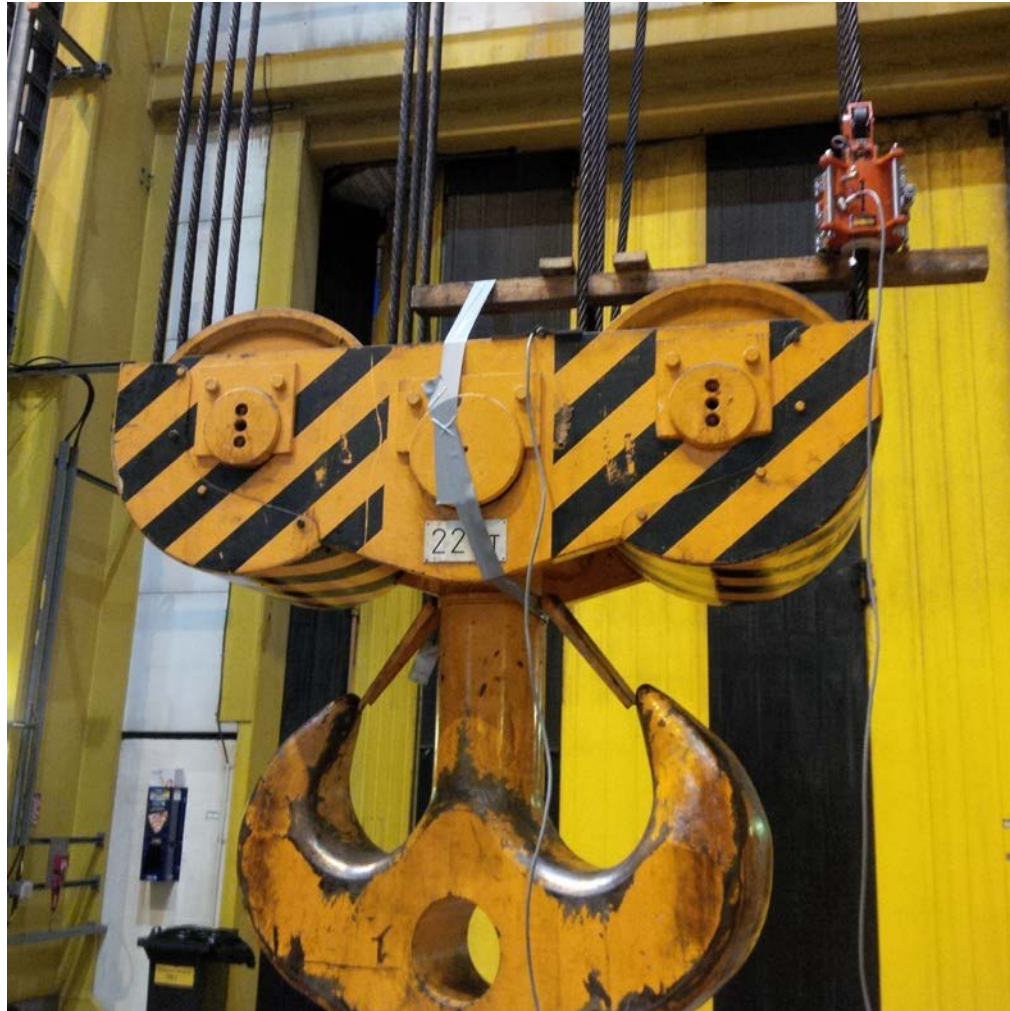


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Mooring ropes



Crane ropes

MRT - current use

- O&G
- Mining
- Aerial ropeways

MRT - future use

- As above +
- Rope factory (signature trace)
- Cranes (ISO 4309)
- Mooring ropes





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Thank you